Technology: Microelectronics

Vitesse Semiconductor Corp offers Stapleford (VSC7303), a 24-port, Gigabit Switch integrated circui. Intended to migrate existing 24- and 48-port, 10/100 LAN switch boxes to triple speed Gigabit capabilities. it is available for production orders.

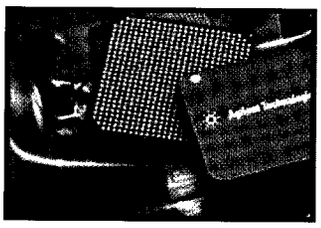
Hong Kong based mobile telephone service provider Hutchison 3G and Japanese service provider NTT CoCoMo have signed an agreement that could enable both companies to roll out a successor to the new 3G mobile phone networks - possibly as early as 2006. The successor 3.5G is based on a technology from UbiNetics, a UK-based company, running 40 times faster than 3G.

Purple Patch Wireless is a young-company that has a number of patents in required software for hotspot services. It will specialise in the provision of public access wireless communications. Hotspots make connectivity available where users congregate, typically in hotels, conferences, and airports. Currently, there are 4,000 public access hotspot points in the US; 100 in the UK, 800 in mainland Europe and 3,000 in Asia/Pacific. 2007 estimates suggest over 120,000 WLAN hot-spots world-wide used by over 35m infrequently and 31m frequent users.

Open standards and key vertical market applications will ignite the market for low-power, low-data-rate wireless technology (LR-WPAN) and help it grow at a 47% CAGR) to more than $8bn by 2007, according to a study by the Wireless Data Research Group. Vertical markets include building, industrial automation, automotive and consumer electronics.

E-pHEMT ramp up

Agilent Technologies' E-pHEMT power amplifier (PA) modules are now shipping at a rate of greater than 500,000 units per month to multiple customers. Agilent expects to increase shipments to 2-3m units per month by September. The pHEMT PA modules have been designed into six mobile terminal platforms for both CDMA and GSM air interfaces, including a phone from one of the top three GSM handset manufacturers. To keep up with demand for E-pHEMT products, Agilent is ramping its new six-inch wafer fab in Ft. Collins, Colorado.



Agilent ramps up 6" wafer fab

The fab offers high volume manufacturing capacity, leverages CMOS statistical process control techniques to optimise performance of analog/mixed-signal devices.

Mitsubishi Electric

Mitsubishi Electric & Electronic USA Inc, has established a new semiconductor division which will provide compound semiconductors in discrete and module form for optoelectronic and microwave RF customers based in North America.

The new division will remain headquartered in California's Silicon Valley area and provide marketing, sales, and application engineering support. Regional sales offices and third-party sales channels will also be located in U.S. and Canada.

The company produces GaAs field-effect transistors, modules, and monolithic microwave ICs using hetero-bipolar transistor (HBT), pseudomorphic high electron mobility transistor (pHEMT), metal semiconductor FET (MESFET), and heterostructure FET technologies. It also uses MOS and LDMOS.

Mitsubishi Electric's latest products are eight MMIC chipset models for 76GHz mm-wave radars using electric beam scanning for auto safety. These are based on GaAs and use pHEMT technology.

SiGe for silicon oasis

German mixed-signal foundry development Communicant (the first pure play RF and mixed signal foundry), currently offering 0.25-micron SiGe:C BiCMOS design kits three heterobipolar NPN transistors with a range of transition frequency ($_{ft}$) from 80GHz to 30GHz and maximum oscillation frequency ($_{fmax}$) from 90GHz to 70GHz at voltages of 2.4V to 7V, is due to build its new facility at the Dubai Silicon Oasis region within two years.

The Dubai Airport Free Zone Authority has signed an agreement with US CH2M Hill International to prepare a master plan for the "Dubai Silicon Oasis" project scheduled for construction next year. The contract for the master plan will be finalised this year. Dubai Silicon Oasis will be located on a 6,000,000m^2 site. The master plan will focus on the nature and infrastructure requirements of high tech businesses. A business plan will focus on marketing as well as the financial and operating model of the new business and technology park.

Team works on MEMS and MOEMS manufacture

Palomar Technologies' Process Development and Prototyping Services (PDPS) is to use the FeinFocus FOX-160.25MFT x-ray inspection system for the inspection of advanced components, materials and packaging technologies. The companies will publish joint technical papers on their findings with regards to process development, testing, and manufacturing of optoelectronic and micro-mechanical components and assemblies. The equipment will be used to conduct real-time inspection of complex assemblies that include chip-on-board, bond wires, BGA, microBGA, and flip-chip components.

Palomar's PDPS provides design, engineering, prototyping, assembly and automation expertise and/or metrology resources needed to bridge the gap between product concept and automated production.